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| Notice of Allowability | Application No. | Applicant(s) | |
| | 10/716,795 | SAMUKAWA ET AL | |
| | Examiner | Art Unit | |
| | Anh V La | 2636 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the filing on Nov. 20, 2003.
2. ☒ The allowed claim(s) is/are 1-19.
3. ☒ The drawings filed on 20 November 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date <u>11/20/03</u> 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6. <input type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date _____. 7. <input type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____. |
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I. Statement of Reasons for Allowance:

The following is an examiner's statement of reasons for allowance:

Regarding claim 1, the prior art cited herein fails to disclose an object recognition apparatus for a vehicle comprising a radar unit for emitting a transmission wave throughout a predetermined angular range in vertical and horizontal directions of the vehicle to receive a reflected wave from a reflecting object, recognition means for recognizing the reflecting object on the basis of a result of the transmission and reception of the waves in the radar unit, setting means for setting an angular range of emission of a transmission wave in at least one of vertical and horizontal directions of the vehicle to an angular range smaller than the predetermined angular range smaller than the predetermined angular range so that, for recognition of the reflecting object, the radar unit emits the transmission wave in the smaller angular range set by the setting means.

Regarding claim 12, the prior art cited herein fails to disclose an inter-vehicle distance control unit comprising measurement means for emitting a transmission wave around one's vehicle to detect a distance up to a reflecting object and an emission angle of the transmission wave on the basis of a result of detection of a reflected wave of the transmission wave, calculation means for calculating a relative position and a relative speed of the reflecting object with respect to the one's vehicle on the basis of the distance and the emission angle detected by the measurement means, object state decision means for making a decision as to whether the reflecting object is in a moving state or in a stopping state, one's lane probability calculating means for changing a

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probability of the existence of the reflecting object on the same lane as that of the one's vehicle, to be allocated to the reflecting object, based on the relative position calculated by the calculation means in accordance with the moving/stopping state of the reflecting object determined by the object state decision means, and inter-vehicle distance control on the basis of the probability allocated by the one's lane probability calculating means to control an inter-vehicle distance relative to the selected preceding vehicle.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

II. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nakamura discloses a vehicle control method and vehicle warning method.

Kuragaki discloses a vehicle running control apparatus and computer program product.


Shaw discloses a vehicle collision avoidance.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh V La whose telephone number is (571) 272-2970. The examiner can normally be reached on Mon-Fri from 9:30am to 6:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffery Hofsass can be reached on (571) 272-2981. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


ANH V. LA
PRIMARY EXAMINER

Anh V La
Primary Examiner
Art Unit 2636

AI
March 17, 2005